

ARM Manus Research Station

Site Visit 0710M Report

Visit Duration: 01 October to 12 October 2007

Manus Island, Papua New Guinea

SV-0710M-CAL

Final Report

Site: Manus	Dates on Site: 1 - 12 October 2007
Team Members: Troy Culgan Mike Ryczek	Required Items & Other Actions: <ul style="list-style-type: none"> • DC-to-DC converter (ETA 25Sep) • Waterproof 110-V outlets • AED spare battery • Ceilometer internal battery (Yuasa NP12-12 or equivalent) - purchase in Darwin and ship • Provide SKYRAD IRT PC keyboard and mouse (on site) • Anemometer replacement cables - ship from Darwin • 30-amp circuit breaker for MMCR UPS - BOM to purchase and hand carry? • 6 12V Gell Cell Batteries for Instrument Field Power (ETA 25Sep07) • GC25 (on site) • 256MB RAM - BOM to purchase and ship • Handset that works w/ PBX phone - KK to purchase and ship
Task Summary:	Safety: <u>Major Hazards:</u> Caustic chemicals (KOH), Explosive gas (H2), AC electricity <u>Hazard Controls:</u> BOM Electrolyser Handbook, BM Electrolyzer Operations/Maintenance Training, ASNZS 4836/2001-Safe Working on LV Electrical Installations, 2-man rule When replacing items (e.g., desiccant, filters, etc.), record and report the quantity of spares left on site.

SITE TASKS

<div style="display: flex; justify-content: space-around;"> <div style="background-color: #FFD700; padding: 2px;">High priority / usually non-routine</div> <div style="background-color: #FFFF00; padding: 2px;">Low priority / usually routine</div> <div style="background-color: #90EE90; padding: 2px;">Completed</div> </div>				
Priority	System	Date Completed (dd/Month)	Service Time (hours)	Tasks For each priority item insert new line (row) for each date/time entry
1	H2GEN			Perform HOGEN internal Gas sensor calibration, and calibrate HOGEN Van gas sensors - Ensure test gas cylinder valves are closed before leaving site
		30-Sep	2.00	Gas sensor calibration performed
		7-Oct	1.00	Replaced inlet water pressure guage
2	H2GEN			Repair HOGEN
		30-Sep		Gas sensor calibration performed rectified problem
3	COMM			Adjust VSAT antenna
		4-Oct	4	Antenna Peak and Pole completed, no change to antenna status
		5-Oct	2	Inspect and report on corrosion of threaded inserts
		8-Oct	4	Inspected waveguide points of antenna, found evidence of corrosion on the transmit port. Replace Transmit module NJT565 serial# A0108B with unit serial # A0115B. Also replaced LNB model NJS8477En serial # 00656 with unit serial # 0012. Test results showed isolation of 30db which is nominal.
4	BBSS			Install GC25 (shipped from Nauru)
				Installed by observers upon receipt
5	PSP (SKY)			Replace w/calibrated rad (and spare) and notify mentor
		1-Oct	1	PSP replaced, instrument change form sent
6	B/W			Replace w/calibrated rad (and spare) and notify mentor
		1-Oct	1	8-48 replaced, instrument change form sent
7	NIP			Replace w/calibrated rad (and spare) and notify mentor
		1-Oct	1	NIP replaced, instrument change form sent
8	IRT (SKY)			Comparison with portable black body (Vaisala)
		6-Oct	1	Completed
9	PSP (GND)			Replace w/calibrated rad (and spare) and notify mentor

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		1-Oct	1	PSP (GND) replaced, instrument change form sent
10	IRT (GND)			Comparison with portable black body (Vaisala)
		6-Oct	1	Completed
11	TRH (HMP45D)			1) Check installed sensor with Std T/RH probe 2) Replace sensor (and spare) w/ newly calibrated sensors 3) Check newly installed sensor again with Std T/RH probe 4) Send results to MR 5) Send replaced sensor (and spare) to vendor (Vaisala) for cal 6) Send Std T/RH probe to SGP for calibration
		3-Oct	1	Comparison check T/RH probe completed, sensor has not been replaced due to non arrival of shipment
12	WND			1) Replace anemometers (and spare) with newly calibrated anemometers from Darwin 2) Send replaced anemometers to Darwin for calibration
		2-Oct	2	Anemometers replaced
13	BAR			Compare with Std barometer
		3-Oct	1	Comparison complete
14	ORG			Compare w/ ORG calibrator
		3-Oct		Awaiting shipment
15	AWS TBRG (BOM)			BOM AWS TBRG calibrated by BOM
		19-Jul		Performed during SV0707M
16	CEIL			Tip Ceilometer to test dist to known target (trees)
		2-Oct	1	Tip test complete
17	TSI			Shadow band alignment at solar noon aligned N-S w/shadow of camera arm. Check camera arm orientation to be plum w/lens centered over mirror and image focus.
		7-Oct	1	Alignment check complete
18	LGR			Modify DC power supply to loggers (pending ECR 615)
				Awaiting shipment
19	BBSS GCS			1) Replace the temp sensor in installed GCS with freshly calibrated sensor 2) Put removed 1-yr-old temp sensor in Spare GCS 3) Trash oldest temp sensor 4) Order new sensor for next year
				Awaiting shipment
20	MWR			Upgrade/install waterproof 110-V outlet at MWR stand - awaiting KK
		1-Oct	2	Waterproof outlets installed
21	OTHER			Run AC power to instrument field (use 110-V outlets) - awaiting KK
22	ES&H			Change out AED battery
		1-Oct	0.5	Current battery OK, Spare battery placed in AED case
23	IRT (SKY)			Install new SKYRAD IRT computer cables
		4-Oct	2	In progress
		5-Oct	2	SKYRAD IRT computer installed, IRT Baud rate set at 9600 N81
24	OTHER			Replace instrument PCs w/ new Dell GX620s (TSI, MPL, SAM, BBSS) w/ CPCC - pending Ron Reed input

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				Awaiting corepc version with TSI,MPL,SAM,BBSS included
25	COMM			Set up new phone handset that works with Darwin PBX setup - awaiting KK
26	CEIL			Change out internal battery
		1-Oct	0.5	Completed
27	OTHER			Oversee PoM generator maintenance work
		5-Oct	1	GENSET batteries changed out, Old batteries very low on fluid levels. Low maintenance batteries installed 750CCA old batteries were 1000CCA
28	MMCR			Replace MMCR UPS 20-amp circuit breaker with 30-amp breaker
		3-Oct	1	30 amp breaker installed
28a	MMCR			Inspection of MMCR antenna with Photographs
		3-Oct	2	Inspection completed and photographs taken
29	WND			Replace anemometer cables w/ new standard cables (like AMF) for consistency
		2-Oct	6	Anemometer cables replaced, old cables showed signs of wear, preventative action taken
30	OTHER (PoM)			Remove PII from Dick Pearse Laptop (and record SN) as per procedure
		9-Oct	1	PII procedure completed, Laptop serial # LXE12050105100F475EM12 and laptop used by Vince Serial# LXTC3051706110669AEM01
31	OTHER (PoM)			Remove PII from Thompson Laptop (and record SN) as per procedure
32	OTHER (PoM)			Remove PII from Luana Laptop (and record SN) as per procedure
33	GENSET			Burr diesel tank cap threads
		9-Oct		Recommend purchase chain to lock down caps and padlock
34	OTHER			Review fiber optic cables and determine spares needed in pre-terminated lengths
		6-Oct	2	Status report of Manus fiber optic cables sent
34a	OTHER			Replace E-Van UPS 20-amp circuit breaker with 30 amp breaker
		4-Oct	1	Completed
35	MPL			Install a 256MB RAM to PC (per BCR 01397) - awaiting KK purchase
		1-Oct	1	1 gig RAM module installed;reference BCR 01397; reference :CS-2007-0929
36	OTHER			Install time card system - coordinate w/ Hymson
37	COMM			Verify dial-out procedure w/ Observers
		3-Oct	0.5	Verified and used VOIP for teleconference
38	PWR			Change out 2 12V Gell Cell Batteries for Instrument Field Power
				Informed shipment may be up to three weeks before delivery
39	PWR			Evaluate PWR cable and conduit (tripping hazards) between E- and Y-Vans - Can it go up under new canopy?

SITE TASKS

High priority / usually non-routine

Low priority / usually routine

Completed

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				New canopy construction has not yet commenced
40	OTHER			Replace 9V Battery in Automatic Transfer Switch Exercise Module
		1-Oct	1	9V Battery replaced
41	OTHER			Perform routine maintenance as per Maintenance Checklist
		3-Oct	2	In progress
		4-Oct	4	Maintenance continuing
		8-Oct	2	Routine maintenance complete report sent
41a	OTHER			Check Souminet MET3 operation
		5-Oct	1	Checked Met3 operation and power cycled NetRs GPS receiver
		9-Oct	1	Checked Manus Souminet web page all looks normal
42	OTHER			Check ARM Kiosk at Papindos
		9-Oct	1	Unit does not automatically restart after power outage. Once rectified the system is ok for a couple of weeks then restart failure occurs again.
	SHIPPING			List items to be shipped following visit
				Radiometers
				MWR15
				RBD21 switching unit
				Anemometers to Darwin
	FUTURE NEEDS			List items needed for future visits (spares, etc.)
				Circular saw blades 7 1/4 inch blades
				Angle grinder discs 4 1/2 inch
				Jigsaw blades for Milwaukee Sawzall